UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/245,292	02/05/99	SALKINI J	5195

020686
DORSEY & WHITNEY
SUITE 4400
370 SEVENTEENTH STREET
DENVER CO 80202-5644

TM02/1107

EXAMINER	
LEE,C	
ART UNIT	**PAPER NUMBER**
2663	6

DATE MAILED: 11/07/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	Applicant(s)
09/245,292	Jay J. Salkini et al
Examiner	**Group Art Unit**
Andrew Lee	2663

☒ Responsive to communication(s) filed on *Feb 5, 1999*

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *1-104* is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-104* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). *3*

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6, 18, 19, 20, 27-35, 38, 46-48, 52, 66-68, 70 are rejected under 35 U.S.C. 102(b) as being anticipated by Carney et al U.S. Patent No. 5,592,480.

Re Claims 1, 27-35, 38, 46, 47, 68, 70, As background, Carney et al teaches that base stations should be reconfigurable in the event of an expansion of in one type of servics, i.e., emergence to the CDMA & TDMA cellular standards. Furthermore, Carney et al teaches that the basestations should be automatically reconfigured, without requiring an investment in new or different basestation resourses. In particular, Carney et al teaches in fig 1, wherein the modulations in used may be any one of a number of different wireless (air interface) standards and configurable to simultaneously process RF signals formatted according to more than one such air interface at the same time (see col 5, lines 4-20). In view of the Claim 1, the first and second interfaces refer to the plurality of air interfaces and the processor system coupled to the first and second interfaces refers to the base station controller 30.

Re Claims 6, 48, 52, refer to Claim 1, wherein the modulation supports AMPS standard.

Re Claims 18-20, 28, 66, 67 fig 1 teaches communication between the base station and MTSO is through the PSTN. The PSTN supports PBXs.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-5, 7, 49-52, 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carney et al U.S. Patent No. 5,592,480.

Re Claims 2, 49, refer to Claim 1,Carney et al teaches the modulations in used may be any one of a number of different wireless (air interface) standards and configurable to simultaneously process RF signals formatted according to more than one such air interface at the same time (see col 5, lines 4-20). These interfaces are coupled to the DSPs which are each programmed to remove the modulation on each channel signal as specified by the are interface standard supported by the base station. In order for the DSP to support operations of the more than one air interface at the same time, the DSP must incorporate in its programming a message handlers to associate the different interfaces for interoperability. Referring to the first intra/inter system in the first interface would have been associated with the different air interface handling by the DSP. The same reasoning applies to the second interface. Re Claims 3, 5, 49, 51, several standards

presently exist with respect to wireless telecommunications systems that employ CDMA technology, such as, for example, Interim Standard 95 (abbreviated IS-95), Interim Standard 41 and Interim Standard 634 by the Telecommunications Industry Association and Electronic Industries Association. In order to support interoperability of various air interface standard within the base station, various wireless telecommunications standards must be supported. Therefore, it would have been obvious to one skilled in the art to have incorporated the plurality of wireless IS standards to supports interoperability for the different air interfaces. Re Claims 4, 50, the same reasonings applies for the GSM standards.

Re Claims 7, 53, Carney teaches in fig 1 the connection between the basestation to the MTSO is T1 connection. The T1 connection is provided by the PSTN provider. The PSTN providers supports ISDN-PRI protocols and proprietary protocol. If the basestation is to supports plurality of air interface standard simultaneouly. The connection between the basestation and the MTSO must to configured to maximize the traffic connection. The motivation for greater bandwidth in the connection would have been provide reliable connection for the plurality of mobile phone in the plurality of air interfaces.

5. Claims 8-12, 21, 23-25, 36, 37, 41-45, 54, 55, 57, 69, 71, 74-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carney et al U.S. Patent No. 5,592,480 in view of Beeson, Jr. et al U.S. Patent No. 5,289,179.

Re Claims 8-12, 36, 37, 54, 55, 57, 71,Carney et al fails to explicitly teach HLR and VLR. However, Beeson, Jr. et al teaches the HLR and VLR components in fig 1 to provides

roaming, billing, service profiling, etc. The and VLR are databases utilized by the MSC to provide call processing to the mobile station. The HLR and VLR can be combined with the basestation in Carney to provide call processing by the base station controller. Therefore, it would have been obvious to one skilled in the art to have HLR and VLR in , Jr. et al to provide call processing in the basestation of Carney et al.

Re Claims 21, 23-25, 41-45, 69, see fig 1 of '179, the authenication center 108.

Re Claims 74-76, fig 1 of '179 teaches the mobile switching center coupled with the ISDN 126. The ISDN network provide out of signalling in the control channels which is trunked with the base stations connected through the PSTN network, wherein the connections between the base stations and MTSO are of ISDN and designated the trunks are dependent on the routing decision made by the set-up call.

Re Claims 77-80, fig 5 of '179 teaches the administrative module 508 coupled to the communication module 506 which further coupled to the wireless switch modules and base station. Function of the 508 monitors the communication between the communication module 506 with the 504. Monitoring the connections determines the conditions of the trunk connection which includes whether the trunk is blocked or call processing, etc. The monitoring of the trunk connection is inherent. If the trunk connection are not monitored, it is impossible to allocate connections for new calls or provide efficient use of the bandwidth.

6. Claims 13-16, 22, 56, 58-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carney et al U.S. Patent No. 5,592,480 in view of Malackowski et al U.S. Patent No. 5,752,186.

Re Claims 13, 15, 16, 56, 58, 59, 60 Carney et al fails to explicitly teach the processing system determines a procotol of a wireless communication device by interpreting the data contained in the base station control message. Malachowski et al teaches the upon completion of steps 250-252, 256 and 257 in fig 6, at which time the access code has been recognized, the subscriber identity has been recorded, the presence of roamers has been determined and the necessary roamer billing acceptance procedures have been started, the access code is converted to a landline Cellular Linking number at 258 and the call routing software at the MTSO instructs the central processor to proceed to the next stage of telephone network call completion procedures by routing the call to the PTSN at 259. Connection and transmission may be based on TDMA, CDMA, GSM, SMR, PCS or N-AMPS technology, as would occur to one having familiarity with the subject technology. The access code in Malachowski et al combined with the basestation in Carney et al would have been utlized to determined the transmission protocol of the air interface. The motivation would have been provide interoperability between different air interfaces. Therefore, it would have been obvious to one skilled in the art to have incorporated the access code in Marachowski et al into the teaching of Carney et al. Re Claims 14, 61, 62, see fig 6, the plurality of databases. Re Claim 22, the generic messaging is referred to the access code.

7. Claims 17, 63-65 rejected under 35 U.S.C. 103(a) as being unpatentable over Carney et al U.S. Patent No. 5,592,480 in view of Doshi et al U.S. Patent No. 5,729,536.

Re Claims 17, 63-65, Carney et al fails to explicitly teache the ATM interface. However, Doshi et al teaches a digital cellular architecture supporting data services in ATM. The ATM network would have been combined with the connection between the basestation and MTSO in Carney et al. The motivation would have been to provide multimedia data services. Therefore, it would have been obvious to one skilled in the art to have incorporate ATM network in Doshi et al into the teaching of Carney et al.

8. Claims 26, 39, 40, 73, 81-85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carney et al U.S. Patent No. 5,592,480 in view of Orriss et al U.S. Patent No. 5,572,579.

Re Claims 26, 39, 40, 73, Carney et al fails to explicitly teach the GUI for providing an operator access to operate the switching center. However, Orriss et al teaching in figs 5-12 for controlling access to the switching system using the GUI interface. The motivation for using the GUI is to manipulate the commands in those programs by using the pointing device. The use of the GUI is notoriously well known in the art. Therefore, it would have been obvious to one skilled in the art to have incorporated the GUI function in Orriss into the contol of the basestation/MSTO in Carney et al.

Re Claims 81-85, Orriss et al teaches a system and method for providing portable telephone number service, in AIN, the switching points are programmed to trigger a query to a SCP in response to user request of an outside database storing service provider information. The

AIN provide many types of services and also provides transparent operation between the HLR of mobile system for billing purposes. Clearly, the service providers have many types of service plans suited for particular customer base. Customization of the service plans are stored in the HLR and AIN for billing.

9. Claim 72 is rejected under 35 U.S.C. 103(a) as being unpatentable over Carney et al U.S. Patent No. 5,592,480 in view of Felix U.S. Patent No. 5,276,906.

Re Claim 72, Carney fails to teach the by monitoring the signal strength for performing handoff. However, Felix teaches radiotelephone system incorporating threshold for handoff. In particular, fig 3A teaches steps 300-327 the monitoring of signal strength to determine if the threshold condition has been met; sending a communication request with the target base sites; performing handoff procedure. The handoff function is well known in the art and required for providing mobilility to the mobile station. The funcion of the handoff can be combined with the base station in Carney to provide mobility. Therefore, it would have been obvious to one skilled in the art to have incorporated the method of providing handoff in Felix into the teaching of Carney to support mobility in the mobile unit.

10. Claim 86-88, 90-92, 94-104 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan U.S. Patent No. 5,581,596 in view of Richards U.S. Patent No. 5,414,806.

Re Claims 86-88, 90-92, 94-104, Hogan teaches in fig 1, the HLR 24; VLR 30 which is managed by the VRL/DN MGR; AIN SS7; Central Office switch which incorporated the AIN for call management and system configuration. Further teaches that the RPC 20 which provide local

administrative and diagnostic capabilities. The operation of the RPC 20 interface to some operational support system (OSS) from which receipt configuration information, operated through the use of GUI so the technicians can have a direct view of the status of the RPC. Hogan fails to explicitly teach the GUI hierarchy for the HRL,...etc. However, using standard GUI techniques for icon manipulation allows the user to interact with the computer in a single, consistent manner. The user will quickly learn how to perform such tasks as navigating the object hierarchy, selecting or deselecting subobjects, and so on, since these techniques will be common to all systems. The standard GUI function can be combined with the GUI hierarchy for the HLR,...etc to provide a user a easy way of navigating the object hierarchy in a consistant manner. Therefore, it would have been obvious to one skilled in the art to have incorporated the standard GUI HRL...,etc to ease of use to the user.

11. Claims 89 and 93 rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan U.S. Patent No. 5,581,596 in view of Richards U.S. Patent No. 5,414,806 as applied to claim 86 above, and further in view of Carney et al U.S. Patent No. 5,572,480.

Re Claims 89 and 93, Hogan in view of Richards fails to explicitly teach the multi-protocol GUIs. However, Carney et al teaches that base stations should be reconfigurable in the event of an expansion of in one type of servics, i.e., emergence to the CDMA & TDMA cellular standards. Furthermore, Carney et al teaches that the basestations should be automatically reconfigured, without requiring an investment in new or different basestation resourses. (see col 5, lines 4-20). The automatically reconfiguration of the base station reduces the cost by

consolidating the plurality air interfaces within a single base station. Therefore, it would have been obvious to one skilled in the art to have incorporate the multi-protocol base station in Carney et al into the GUI function of Hogan in view of Richards to reduce cost of ad hoc base stations.

Inquiry concerning this communication or eariler communications from the examiner should be directed to Andrew Lee whose telephone number is 703)305-1500. The examiner can normally be reached on Monday-Friday from 8:30 AM - 6:00PM, Eastern Time. If attempts to reach the examiner by telephone are not successful, the examiner's supervisor, **Mr. Chau Nguyen**, can be reached on 703)308-5340.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks Washington, DC 20231or faxed to:

(703) 308-9051, for formal communications intended for entry **or** (703) 308-5403, for informal or draft communications, please label **"PROPOSED"** or **"DRAFT"**.

Hand-delivered responses should be brought to: Crystal Park II, 2121 Crystal Drive, Arlington, Virginia Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is 703)305-3900.

Andrew Lee

November 2, 2000

CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600